



**Governor's Iowa High School Water Summit
and Scholarship Program**

November 15, 2006

**State Capitol
Des Moines, Iowa**



Governor's Iowa High School Water Summit

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Steering Committee

Linda Kinman Iowa Association of Water Agencies Des Moines Water Works	Dave Riley University of Iowa – Center for Health Effects of Environmental Contamination (CHEEC)
Kaylene Carney U.S. Geological Survey	Clarissa Rodriguez Governor's Office
Mindy Wiggins Iowa Rural Water Association	Tina Mowry Growing Green Communities
Becky Schwiete Iowa Department of Natural Resources	Marcy Seavey Iowa Academy of Science Project WET
Joy Harris Iowa Department of Public Health	Barb Gigar Iowa Department of Natural Resources-Aquatic Education, Projects WILD and Learning Tree
Sara Colboth Iowa Department of Public Health	Jeanine Baldwin Iowa State University – Extension
Lynn Laws Iowa Environmental Council	A.J. Weieneth Iowa League of Cities



Governor's Iowa High School Water Summit

Mission Statement: The mission of the Governor's Iowa High School Water Summit is to provide an opportunity for students to gain the knowledge and understanding necessary to preserve and protect Iowa's water resources for today and into the future.

Goals:

- Increase student awareness of and challenges to improving and protecting Iowa's water resources
- Promote the stewardship responsibilities of all Iowa citizens in improving and protecting Iowa's water resources
- Increase student knowledge and awareness of the interrelationship of water to all living things
- Further develop students' skills in the areas of: researching, objective reasoning, problem solving, decision making, and communication-both oral and written
- Increase student knowledge and awareness of the local, county, and state regulatory structures and processes (i.e.: How a bill becomes a law.)
- Provide scholarships to students with an interest in improving and protecting Iowa's water resources **Scholarships will be awarded for first, second, and third place winners**

Summary: Each student interested in participating in the Governor's Iowa High School Water Summit must first submit an application form. **The application must be received by: by 5:00PM, September 1, 2006.**

Each student will be notified when their application is received and that they are expected to submit a paper. The paper must be based on one of three scenarios and meet all format criteria included in this packet. Papers will be read and evaluated by a panel of judges, based on a set of criteria. **The Paper must be sent electronically to kinman@dmww.com, and received by 5:00PM, October 5, 2006.**

From the pool of applicants' papers, the judges will select 100 students to attend the summit and there continue to compete for three scholarships. Students will make an oral presentation on their papers at the summit. All paper and presentations must meet the criteria and deadlines outlined in this document.

The paper and presentation will be scored independently. The scores will be combined to determine the final ranking and awarding of scholarships. Scholarships will be awarded to the students with the highest combined scores ranking 1st, 2nd, and 3rd overall. Scores and comments of the judges will be sent to each student following the competition.

Scholarships:	First Place	\$5,000
	Second Place	\$3,000
	Third Place	\$2,000



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Notification of acceptance: October 19, 2006 all applicants will be notified whether or not they have been selected to attend and present at the Summit.

Event Schedule: November 15, 2006 – State Capitol Building, Des Moines, Iowa

9:00-9:30AM	Check-in
9:30AM	Go over logistics for the day
9:40 AM	Welcome from Governor Vilsack
10:00AM	Judging begins
Noon-1:00PM	Lunch (provided)
1:00-1:30 PM	Presentations by Iowa State University, University of Northern Iowa, and The University of Iowa
1:30-3:30PM	Rotate through 4 presentations
3:30PM	Speaker
3:50PM	Governor Vilsack presents scholarships
4:00 PM	Event concludes

Contact Person: Linda Kinman Phone 515-283-8706
Iowa Association of Water Agencies Fax 515-283-2610
2201 George Flagg Parkway E-mail kinman@dmww.com
Des Moines, Iowa 50321

One set of materials needed to participate in this competition are included in this packet. You may request additional materials from the contact person or access them through the following websites under the heading Governor's Iowa High School Water Summit:

- www.iowadnr.com
- www.governor.state.ia.us
- www.iaenvironment.org

General Format: Three scenarios are included in this packet. Students must select one scenario as the basis for their paper and presentation, then research and prepare their paper over the summer months. Only one paper per student will be accepted. A resource guide is included that may be useful in researching various topics. Students should answer all questions associated with their scenario.

Few issues surrounding water quality are black and white. Students should consider a variety of options and opinions as they develop proposed solutions that are environmentally, socially, scientifically and economically viable. For example, visit with people in the community, participate in local water quality projects, or listen to speakers in your area. Most importantly, take this opportunity to learn more about your water resources and have fun doing it.



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Paper format:

- Created as a Word® document
- Minimum 8 pages
- Maximum 10 pages
 - Page size: 8.5 by 11 inches
 - Spacing: Double spaced
 - Font: 12 point Times or Times New Roman
 - Margins: 1 inch
- Cover page (counted separately) must include:
 - Name
 - Age
 - Grade
 - School
 - Contact Information
- List of reference materials (counted separately)

The paper will be scored on:

- **Relevancy to topic**
- **General knowledge of the principles and concepts explored**
- **Thoroughness**
 - Demonstrates a good understanding of the problem
 - Several solutions are explored
 - Selection of “best” solution(s) is clear and well defended
 - Information and research are well-referenced (references attached to paper)
- **How well the paper supports the decision/conclusion**
 - Accounts for all possible challenges to the solution
 - Strategies, options and solutions are identified and defined
 - The argument supporting the chosen solution is persuasive
 - Solution(s) chosen is feasible and realistic
- **Innovative ideas/solutions explored**
- **Conclusions and solutions are scientifically sound**

Presentation format:

- Limited to 5 minutes
- A poster may be used during the presentation (video or audio cassettes, computer-assisted presentations, or any other media using electricity are **not** allowed)

The presentation will be scored on:

NOTE: Only students who are notified that their paper has been selected for presentation at the summit need to prepare a presentation

- Well organized
- Relevant to the paper
- Demonstrates a solid understanding of the issue
- Solutions clearly stated and supported
- Conclusion clearly defined and convincing
- Presented within the allotted time period



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Competition Rules:

1. Students must be a junior or senior at the beginning of the 2006 fall semester
2. Substitutes will not be allowed to participate or attend the competition
3. If necessary, the number of students from an individual school may be limited
4. A parent, teacher, or adult advisor approved by the student's school must accompany the student to the competition. This person *may not* accompany the student during the actual judging session, but may participate in all other program activities and lunch.
5. The competition will be judged by adults respected in their profession and knowledgeable on the topics covered in the scenarios. A list of judges will be provided at the competition.
6. Neither the student nor the chaperone are to use any electronic recording or communication devices such as tape recorders, video cameras, beepers or cell phones during the competition or at any other time a program or activity of the Summit is in progress.
7. The three students with the highest cumulative points at the end of the competition will win the scholarships.
8. A tie breaker will determine the winner in case of a tie.
9. Decisions of the judges are final. Tie breaker procedures will be determined and announced prior to the beginning of the competition.
10. Transportation and meals to and from the competition are the responsibility of the student and chaperone.
11. The student and chaperone are to conduct themselves appropriately throughout the day.
12. Registration forms must be legible and received by the deadline. All late and illegible forms will be rejected.
13. These rules are subject to change. Any and all relevant changes will be explained to all participants prior to the appropriate competition deadline.
14. Any suggestions for improvement of this event or the rules and requirements may be made to the contact person listed in the information packet and will be considered by the steering committee.
15. Students participating as juniors may compete again the following year as a senior.
16. If a participant leaves the competition early, they will forfeit any award.

Chew/snuff, tobacco, drugs and all alcohol are prohibited during the competition!
(Rules applicable to local school code of conduct will apply)

Scenarios:

Scenario One:

The state lake in your county has historically been used and enjoyed by generations of people for fishing, swimming and other recreational activities. The lake is ringed with houses and cabins. There are also several public access areas along the shores. The lake is now filling full of sediment and nutrients, causing eutrophication and leading to poor fishing and foul smelling water. Bacteria levels in the lake are also rising. Because you are a public official in this county, some residents are urging you to fix this problem.



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Research the issue and determine what you think is the best solution. Your research and paper must address the following:

1. What are the possible causes or sources of pollution? How is the water in the lake recharged—what is its source?
2. What public health problems might this situation pose?
3. What can be done to restore the lake for its former uses? What are the various options? What are the pros and cons of each? Consider not only technologies, but also policies—regulating human behavior.
4. What is the best solution for your county and why? Who pays? Support your decisions.
5. How do you develop awareness of the problem and get support for your solution?
6. What policies, laws and/or rules could protect the lake in the future?

Scenario Two:

You are the manager of a drinking water system in a metropolitan area, with a high water demand. Your community must rely on a river for its drinking water. It has been discovered that the river, the source of your drinking water, has three major water quality problems:

- High nitrate levels
- High bacteria levels
- Great quantities of blue-green algae

Community members are complaining about the taste and odor of their water. In addition, the Iowa Department of Natural Resources (IDNR) has notified you that your monitoring data shows these contaminants continuing to trend upward. If these trends continue it may place the utility out of compliance. (i.e. in violation of federal drinking water standards) Systems out of compliance often face heavy fines and must take corrective action immediately or risk losing their operating permit. IDNR requires your community to address these three problems to insure your utility will be in compliance within 2 years or you will lose your operating permit.

Research the issue and determine what you think is the best solution. Your research and paper must address the following:

1. What are the possible causes or sources of pollution? How is the water in the river recharged—what is its source?
2. What public health problems might this situation pose?
3. What can be done to reduce the levels of pollution and come into compliance? What are the various options? What are the pros and cons of each? Consider not only technologies, but also policies—regulating human behavior.
4. What is the best solution for your city and why? Who pays? Support your decisions.
5. How do you develop awareness of the problem and get support for your solution?
6. What policies, laws and/or rules could protect the river in the future?

Scenario Three:

You are a county supervisor and you have two unincorporated towns in your county. One of the towns is made up of mostly elderly individuals with fixed incomes. The other town is a 25-



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year-old housing development with two and a half acre lots. Most of the individuals in this town have high incomes.

Neither of these towns has centralized waste water treatment systems, all homes are on individual septic systems. It has been discovered that both communities have failing septic systems that are negatively impacting a nearby, popular trout stream and the local drinking water aquifer. Both communities are using the local aquifer as their source of drinking water through private wells. Each community is approximately 2 miles outside a metropolitan area with a public drinking water system.

Research the issue and determine what you think is the best solution. Your research and paper must address the following:

1. How is the water in the aquifer recharged—what is its source?
2. What public health problems might this situation pose?
3. What can be done? What are the various options? What are the pros and cons of each? Consider not only technologies, but also policies—regulating human behavior.
4. What is the best solution for your county and why? Who pays? Support your decisions.
5. How do you develop awareness of the problem and get support for your solution?
6. What policies, laws and/or rules could protect the aquifer in the future?
7. What are the funding options to achieve the recommended changes?

Resource Guide:

Iowa Department of Natural Resources
www.iowadnr.com

Iowa Department of Public Health
www.idph.state.ia.us

Overall Resource Link
www.nacdnet.org/resources/links.

Green Infrastructure
www.greeninfrastructure.net

Know Your Watershed - Lakes
<http://www.ctic.purdue.edu/KYW/Brochures/ReflectingLakes.html>

Ecological Waste Water Treatment
<http://www.iaenvironment.org/archivespdf/EcologicalWastewaterTreatmentReport.pdf>

Iowa Onsite Waste Water Program
<http://www.iowadnr.com/water/septic/index.html>

Septic Systems
<http://cfpub.epa.gov/owm/septic/home.cfm>

Storm Water Manager's Resource Center
<http://www.stormwatercenter.net/>

EPA Watershed Information Network
<http://www.epa.gov/win/>

Center for Watershed Protection
<http://www.cwp.org/>

Global Change Research Program
www.epa.gov/gcrp

EPA-Human Health
www.epa.gov/ebtpages/humanhealth

Center for Disease Control
www.cdc.org

University of Iowa-Center for Health Effects of Environmental Contamination (CHEEC)
www.cheec.uiowa.edu



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EPA-Office of Water
www.epa.gov/OW/index

US Geological Survey
www.usgs.gov

EPA-Data bases and Software
www.epa.gov/water/soft

US Department of Agriculture
www.usda.gov or

Iowa Policy Project
www.iowapolicyproject.org

USDA-National Soil Tilth Laboratory
www.ars.usda.gov

Iowa State University-Extension
www.extension.iastate.edu

Other sources of information:

Local drinking water or waste water utility
Environmental groups

Rural water system
Local watershed group